

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 63-168604

(43)Date of publication of application : 12.07.1988

(51)Int.Cl.

G02B 6/00
G02F 1/133
// F21Q 3/00

(21)Application number : 62-000378

(71)Applicant : HITACHI LTD

HITACHI DEVICE ENG CO LTD

(22)Date of filing : 07.01.1987

(72)Inventor : WATANABE SABURO

(54) PLANAR LIGHT SOURCE FOR LIQUID CRYSTAL DISPLAY DEVICE

(57)Abstract:

PURPOSE: To obtain a planar light source for transmission type liquid crystal display device of high uniformity of surface light emission by arranging spot light sources of the plate-shaped light source on end parts of a light-transmissive plate so that the light is made incident on the inside of the light-transmissive plate and roughening the surface of the plate while changing the degree of roughness dependently upon the distances from spot light sources and closely bringing a reflection surface into contact with the rear face of this plate to arrange a reflection plate.

CONSTITUTION: Two light emitting diodes (LED) 1 are molded, and two pairs of them are attached to sections in both end parts of a light transmission plate 2. The surface of a mold for light transmission plate molding is roughened to rough a surface 2a of the light transmission plate 2, whose thickness is approximately equal to the diameter of the light source, so that the roughness of the surface is changed in proportion to the square of the distance from the section in the end part of the light transmission plate. Since the surface is roughened, total reflection is not repeated in the plate, and the proportion of the light emitted from the surface of the plate to the outside is larger according as the distance from the light source is longer. Thus, the light is uniformly emitted from all of the surface of the plate.

